

U.S.S.N. 10/827,187

RCE

December 10, 2008

R E M A R K S

This Response is responsive to the Office Action mailed **Error! Reference source not found.** ("Office Action").

Claim Rejections – 35 USC § 103(a)

Claims 17, 20, 21, 23-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens (US 2002/0155329) in view of Monzyk et al. (US 6,503,298).

Claim 17 of the present invention discloses a method for generating a hydrogen-rich reformate, the method comprising the steps of reacting a hydrocarbon fuel in a catalyst bed comprising a reforming catalyst and carbon dioxide fixing material to produce a reformate comprising hydrogen and carbon dioxide, the carbon dioxide fixing material fixing at least a portion of the carbon dioxide in the reformate to produce an intermediate reformate; removing hydrogen from the intermediate reformate by flowing the intermediate reformate through a first purification bed comprising a hydrogen fixing material to produce a hydrogen-depleted gas and fixed hydrogen; and releasing the fixed hydrogen from the first purification bed to produce a hydrogen-rich gas.

According to the Examiner, Stevens discloses a method for generating a hydrogen-rich reformate (Office Action, p. 2). According to the Examiner, Monzyk discloses a preferable hydrogen purification unit that can be used downstream of a reformer and used to produce hydrogen for a fuel cell (Office Action, p. 4).

According to MPEP Section 2141, “[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” Further, according to MPEP Section 2141, “rejections on obviousness cannot be sustained

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by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

According to the Examiner, Monzyk teaches the process as an efficient and preferable way of purifying hydrogen and Stevens discloses the preference for high purity hydrogen for the efficient operation of a fuel cell and lower cost (Office Action, p. 5). As such, according to the Examiner, it would have been obvious to one of ordinary skill in the art at the time of the invention to add the hydrogen purification process of Monzyk to the hydrogen generating process of Stevens in order to provide high purity hydrogen in an efficient way for uses such as in fuel cells (Office Action, p. 5).

Stevens states that "higher hydrogen purity improves fuel cell efficiency and cost" (Paragraph 0006). Stevens then discloses "a method for converting hydrocarbon fuel to hydrogen rich gas" (Paragraph 0007). The hydrogen rich gas of Stevens "is suitable for use in a fuel cell" (Paragraph 0007). As a result, Applicants respectfully assert that there is no teaching, suggestion, or motivation in Stevens that would have lead one of ordinary skill to combine the Stevens and Monzyk teachings to arrive at the claimed invention. Reconsideration and withdrawal of this rejection of claim 17 and claims 20, 21, and 23-30 which depend from claim 17 is respectfully requested.

Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens (US 2002/0155329) in view of Monzyk et al. (US 6,503,298), as applied to claim 17, and further in view of Golben (US 5,250,368). Claim 18 is believed to be in condition for allowance by virtue of its dependency from claim 17. Applicants respectfully request reconsideration and withdrawal of this rejection of claim 18.

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Claim 19 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens (US 2002/0155329) in view of Monzyk et al. (US 6,503,298), as applied to claim 17, and further evidenced by Heung (US 5,958,098). Claim 19 is believed to be in condition for allowance by virtue of its dependency from claim 17. Applicants respectfully request reconsideration and withdrawal of this rejection of claim 19.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens (US 2002/0155329) in view of Monzyk et al. (US 6,503,298), as applied to claim 17, and further evidenced by Schiodt et al. (US 2001/0055560). Claim 22 is believed to be in condition for allowance by virtue of its dependency from claim 17. Applicants respectfully request reconsideration and withdrawal of this rejection of claim 22.

* * * * *

Conclusion

All of the stated grounds of objection and rejection are believed to have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

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Respectfully submitted,

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